WHAT IS CLAIMED IS:

1. An apparatus for reading recorded data, said apparatus comprising:

a sampling part sampling a read signal from recorded data of a recording medium by synchronizing with a first clock signal;

a first storing part consecutively storing a sample value obtained by said sampling part; and

a data detecting part retrieving the sample value from said first storing part by synchronizing a second clock signal different from the first clock signal and detecting data by processing the sample value in accordance with a predetermined algorithm,

so that the recorded data is read based on the data detected by said data detecting part.

2. The apparatus as claimed in claim 1, wherein said data detecting part comprises a recursive process conducing part conducting a recursive process for the sample data retrieved from the first storing part in accordance with the predetermined algorithm so that maximum likelihood data is detected.

3. The apparatus as claimed in claim 1, wherein the second clock signal is faster than the

first clock signal.

4. The apparatus as claimed in claim 1, wherein when said recorded data is an address recorded in an address part, the second clock signal is faster than the first clock signal for storing the sample value of the address part to said first storing part.

5. The apparatus as claimed in claim 1, wherein when said recorded data is data recorded in a data part, the second clock signal is faster than the first clock signal for storing the sample value of the data to said first storing part.

6. The apparatus as claimed in claim 2, wherein said recursive process conduction part conducts said recursive process based on an iterative number, which number is defined so that a required time required completing said recursive process does not exceed a storing time required storing the sample value by said first storing part.

7. The apparatus as claimed in claim 2, wherein said recursive process conduction part conducts said recursive process based on the

iterative number, which number in a case in which the recorded data is the address recorded in the address part is different from that in a case in which the recorded data is the data recorded in the data part.

8. The apparatus as claimed in claim 2, wherein said recursive process conduction part conducts said recursive process based on an iterative number, which number is defined so that a required time required completing said recursive process conducted does not exceed a scanning time required scanning a gap provided between an address part recording an address of data and a data part recording the data.

9. The apparatus as claimed in claim 1, further comprising:

a second storing part consecutively storing a sample value obtained by said sampling part;

a first switching part switching to one of said first storing part and said second storing part;

a second switching part switching to another one of said first storing part and said second storing part, which is not witched to by said first switching part;

whereby one of said first storing part and said second storing part, which is switched to by said first switching part, stores the sample value, while said data detecting part retrieves the sample value from another one of said first storing part and

said second storing part, which is switched to by said second switching part.

10. The apparatus as claimed in claim 9, wherein one of said first storing part and said second storing part, which is switched to by said first switching part, stores the sample value of an address recorded in an address part, while said data detecting part retrieves the sample value of data recorded in a data part from another one of said first storing part and said second storing part, which is switched to by said second switching part.

11. The apparatus as claimed in claim 9, wherein said data detecting part comprises a recursive process conducting part conducting a recursive process for the sample value, which is retrieved from one of said first storing part and said second storing part, which is switched by said second switching part, in accordance with the predetermined algorithm, and detecting the maximum likelihood data, by synchronizing with said second clock signal.

12. The apparatus as claimed in claim 11, wherein said second clock signal is faster than said first clock signal which the one of said first storing part and said second storing part, which is

switched by said first switching part, synchronizes with when the one of said first storing part and said second storing part stores the sample value.

13. The apparatus as claimed in claim 11, wherein said recursive process conduction part conducts said recursive process based on an iterative number, which number is defined so that a required time required completing said recursive process does not exceed a storing time required storing the sample value by one of said first storing part and said second part, which is switched by said first switching part.

14. The apparatus as claimed in claim 11, wherein said recursive process conduction part conducts said recursive process based on an iterative number, which number is defined so that a required time, which is required retrieving the sample value of the data part from one of said first storing part and said second storing part, which one is switched by said second switching part, and completing said recursive process, does not exceed a storing time, which is required storing the sample value of the address part to another one of said first storing part and said second storing part, which one is switched by said first switching part.

15. The apparatus as claimed in claim 15, wherein said iterative number is set when one of said first storing part and said second storing part, which one is switched by said first switching part, stores the sample value of the address part.

16. The apparatus as claimed in claim 11, wherein said recursive process conduction part conducts said recursive process based on an iterative number, which number is defined so that a required time, which is required retrieving the sample value of the address part from one of said first storing part and said second storing part, which one is switched by said second switching part, and completing said recursive process, does not exceed a storing time, which is required storing the sample value of the data part to another one of said first storing part and said second storing part, which one is switched by said first switching part.

17. The apparatus as claimed in claim 16, wherein said iterative number is set when one of said first storing part and said second storing part, which one is switched by said first switching part, stores the sample value of the data part.